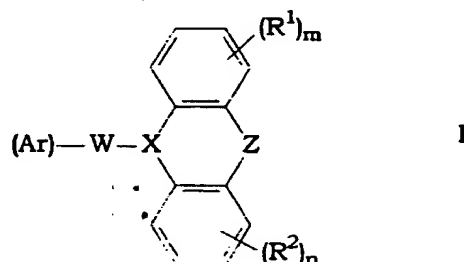


What is claimed is:

1. A compound of the following Formula I:



wherein Ar is optionally substituted carbocyclic aryl or optionally substituted heteroaromatic;

W is a chemical bond, optionally substituted amino, optionally substituted alkylene having 1 to about 3 carbon atoms, or aminoalkylene having 1 nitrogen and 1 or 2 carbon atoms;

X is nitrogen or carbon;

Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

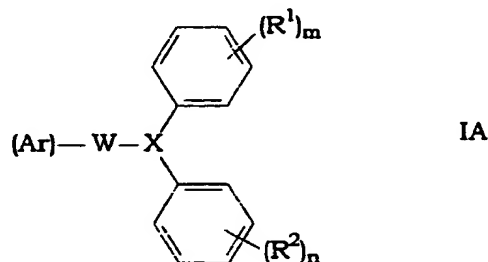
each R<sup>1</sup> and R<sup>2</sup> independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 4; and pharmaceutically acceptable salts thereof.

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2. A compound of the following Formula IA:



wherein Ar is optionally substituted carbocyclic aryl or optionally substituted heteroaromatic;

W is a chemical bond, optionally substituted amino, optionally substituted alkylene having 1 to about 3 carbon atoms, or aminoalkylene having 1 nitrogen and 1 or 2 carbon atoms;

X is nitrogen or carbon;

Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

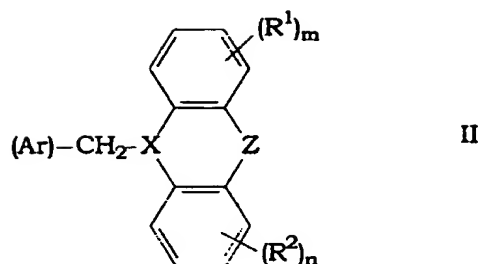
each R<sup>1</sup> and R<sup>2</sup> independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 5; and pharmaceutically acceptable salts thereof.

3. A compound of the following Formula II:

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wherein Ar is optionally substituted carbocyclic aryl or optionally substituted heteroaromatic;

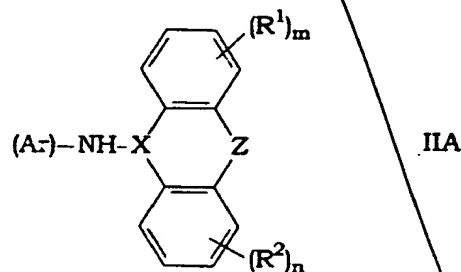
Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

X is nitrogen or carbon;

each  $R^1$  and  $R^2$  independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 4; and pharmaceutically acceptable salts thereof.

4. A compound of the following Formula IIA:

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wherein Ar is optionally substituted carbocyclic aryl or optionally substituted heteroaromatic;

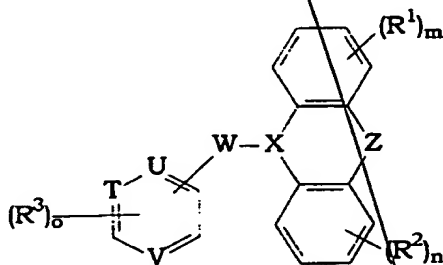
Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

X is nitrogen or carbon;

each  $R^1$  and  $R^2$  independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 4; and pharmaceutically acceptable salts thereof.

5. A compound of the following Formula III:



III

T, U and V are each independently optionally substituted carbon, or optionally substituted nitrogen;

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W is a chemical bond, optionally substituted amino, optionally substituted alkylene having 1 to about 3 carbon atoms, or aminoalkylene having 1 nitrogen and 1 or 2 carbon atoms;

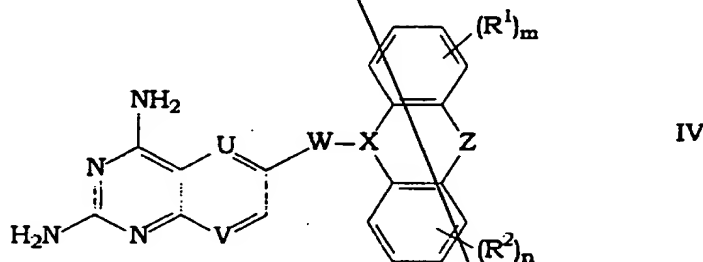
X is nitrogen or carbon;

Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

each  $R^1$ ,  $R^2$  and  $R^3$  independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 4; o is an integer of from 0 to 5 and pharmaceutically acceptable salts thereof.

6. A compound of the following Formula IV:



U and V are each independently optionally substituted carbon, or optionally substituted nitrogen;

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W is a chemical bond, optionally substituted amino, optionally substituted alkylene having 1 to about 3 carbon atoms, or aminoalkylene having 1 nitrogen and 1 or 2 carbon atoms;

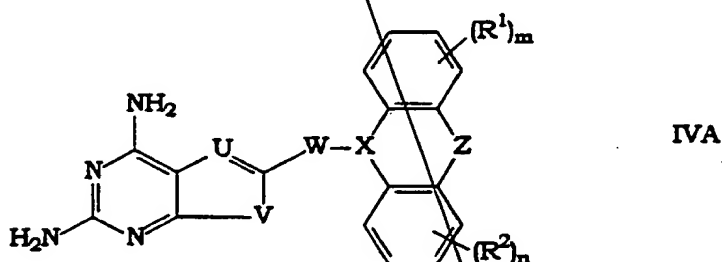
X is nitrogen or carbon;

Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

each  $R^1$  and  $R^2$  independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 4; and pharmaceutically acceptable salts thereof.

7. A compound of the following Formula IVA:



U and V are each independently optionally substituted carbon, or optionally substituted nitrogen;

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W is a chemical bond, optionally substituted amino, optionally substituted alkylene having 1 to about 3 carbon atoms, or aminoalkylene having 1 nitrogen and 1 or 2 carbon atoms;

X is nitrogen or carbon;

Z represents a chemical bond, optionally substituted methylene, optionally substituted ethylene, optionally substituted vinyl, optionally substituted azamethinyl, optionally substituted azamethylene, O, S, or optionally substituted N, or Z represents non-linked substituents on each phenyl group;

each R<sup>1</sup> and R<sup>2</sup> independently may be halogen, amino, hydroxy, nitro, azido, optionally substituted alkyl preferably, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted alkoxy, optionally substituted aminoalkyl, optionally substituted alkanoyl, optionally substituted alkylthio, optionally substituted alkylsulfinyl, optionally substituted alkylsulfonyl, optionally substituted carbocyclic aryl, or optionally substituted heteroaromatic, or optionally substituted heteroalicyclic;

m and n are each independently an integer of from 0 to 4; and pharmaceutically acceptable salts thereof.

8. A compound of any one of claims 1, 3, 4, 5, 6 or 7 wherein Z is -CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>-, NH, O, or S.

9. A compound of any one of claims 1, 2, 5, 6 or 7 wherein W is a bond, CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>, or NH.

10. A compound of claim 1 wherein the compound is:

N-(2,4-diaminopteridin-6-yl)methyl-N,N-diphenylamine;

2,4-diamino-6-(carbazol-5-yl)methylpteridine;

2,4-diamino-6-(9,10-dihydroacridin-9-yl)methylpteridine;

N-[(2,4-diaminopteridin-6-yl)methyl]phenoxazine;

N-[(2,4-diaminopteridin-6-yl)methyl]phenothiazine;

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~~N-[(2,4-diaminopteridin-6-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;~~  
~~N-[(2,4-diaminopteridin-6-yl)methyl]dibenz[*b,f*]azepine;~~  
~~N-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]-N,N-diphenylamine;~~  
~~N-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]-N,N-diphenylamine;~~  
~~N-[(2,4-diaminoquinazolin-6-yl)methyl]-N,N-diphenylamine;~~  
~~N-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]-N,N-diphenylamine;~~  
~~N-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]-N,N-diphenylamine;~~  
~~N-[(2,4-diaminopyrimidin-6-yl)methyl]-N,N-diphenylamine;~~  
~~N-[(2,4-diaminopteridin-6-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminoquinazolin-6-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminopyrimidin-6-yl)methyl]carbazole;~~  
~~N-[(2,4-diaminopteridin-6-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminoquinazolin-6-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminopyrimidin-6-yl)methyl]-9,10-dihydroacridine;~~  
~~N-[(2,4-diaminopteridin-6-yl)methyl]phenoxazine;~~

- 50 -

9-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]phenoxazine;  
9-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]phenoxazine;  
9-[(2,4-diaminoquinazolin-6-yl)methyl]phenoxazine;  
9-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]phenoxazine;  
9-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]phenoxazine;  
9-[(2,4-diaminopyrimidin-6-yl)methyl]phenoxazine;  
N-[(2,4-diaminopteridin-6-yl)methyl]phenothiazine;  
9-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]phenothiazine;  
9-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]phenothiazine;  
9-[(2,4-diaminoquinazolin-6-yl)methyl]phenothiazine;  
9-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]phenothiazine;  
9-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]phenothiazine;  
9-[(2,4-diaminopyrimidin-5-yl)methyl]phenothiazine;  
N-[(2,4-diaminopteridin-6-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
N-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
N-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
9-[(2,4-diaminoquinazolin-6-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
9-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
9-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
9-[(2,4-diaminopyrimidin-5-yl)methyl]-9,10-dihydrodibenz[*b,f*]azepine;  
N-[(2,4-diaminopteridin-6-yl)methyl]dibenz[*b,f*]azepine;  
9-[(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)methyl]dibenz[*b,f*]azepine;  
9-[(2,4-diaminopyrido[3,2-*d*]pyrimidin-6-yl)methyl]dibenz[*b,f*]azepine;

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9-[(2,4-diaminoquinazolin-6-yl) methyl]dibenz[*b,f*]azepine;  
 9-[(2,4-diaminothieno[2,3-*d*]pyrimidin-5-yl)methyl]dibenz[*b,f*]azepine;  
 9-[(2,4-diaminofuro[2,3-*d*]pyrimidin-5-yl)methyl]dibenz[*b,f*]azepine;  
 9-[(2,4-diaminopyrimidin-6-yl)methyl]dibenz[*b,f*]azepine;  
 N-(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)benzhydramine;  
 N-(2,4-diaminoquinazolin-6-yl)benzhydramine;  
 N-[(2,4-diaminopyrimidin-5-yl)methyl]benzhydramine;  
 N-[(2,4-diaminopyrimidin-5-yl)ethyl]benzhydramine;  
 9-[N-(2,4-diaminoquinazolin-6-yl)amino]fluorene;  
 9-[N-(2,4-diaminoquinazolin-5-yl)methylamino]fluorene;  
 9-[N-[2-(2,4-diaminoquinazolin-5-yl)ethyl]amino]fluorene;  
 5-[N-(2,4-diaminopyrido[2,3-*d*]pyrimidin-6-yl)amino]-5*H*-10,11-dihydro-  
 dibenzo[*a,d*]cycloheptene;  
 5-[N-(2,4-diaminoquinazolin-6-yl)amino]-5*H*-10,11-  
 dihydrodibenzo[*a,d*]cycloheptene;  
 5-[N-(2,4-diaminopyrimidin-5-yl)methylamino]-5*H*-10,11-dihydrodibenzo  
 [a,d]cycloheptene;  
 5-[N-[2-(2,4-diaminopyrimidin-5-yl)ethyl]amino]-5*H*-10,11-dihydrodibenzo  
 [a,d]cycloheptene;  
 5-[N-(2,4-diaminopyrimidin-[2,3-*d*]pyrimidin-6-yl)amino]-5*H*-dibenzo  
 [a,d]cycloheptene;  
 5-[N-(2,4-diaminoquinazolin-6-yl)amino]-5*H*-dibenzo [a,d]cycloheptene;  
 5-[N-(2,4-diaminopyrimidin-5-yl)methylamino]-5*H*-dibenzo[a,d]cycloheptene; and  
 5-[N-[2-(2,4-diaminopyrimidin-5-yl)ethyl]amino]-5*H*-dibenzo[a,d]cycloheptene; and  
 pharmaceutically acceptable salts thereof.

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11. A method of treating a patient suffering from or susceptible to a parasitic disease, comprising administering to the patient an effective amount of a compound of any one of claim 1-10.
  12. A method of treating a patient suffering from or susceptible to toxoplasmosis, comprising administering to the patient an effective amount of a compound of any one of claim 1-10.
  13. The method of claim 11 or 12 wherein the patient's immune system is suppressed.
  14. The method of claim 11 or 12 wherein the patient has a retrovirus infection.
  15. The method of claim 11 or 12 wherein the patient has an HIV infection.
  16. The method of claim 11 or 12 wherein the patient is suffering from AIDS.
  17. The method of claim 11 or 12 wherein the patient has received or will be receiving immunosuppressive cancer chemotherapy treatment.
  18. A method of treating a patient suffering from or susceptible to cryptosporidiosis, leishmaniasis or malaria, comprising administering to the patient an effective amount of a compound of any one of claims 1-10.
  19. A method of treating a patient suffering from or susceptible to an infection of *Toxoplasma gondii*, *Pneumocystis carinii*, *Cryptosporidium*, *Leishmania*, *Plasmodium vivax*, *P. falciparum*, *P. malarie*, or *P. ovale*.
  20. A method of treating a patient suffering from or susceptible to a *Toxoplasma gondii* infection.
  21. A method of treating a patient suffering from or susceptible to tuberculosis.
  22. A method of any one of claims 11-21 wherein the disease is treated without administration of a sulfa drug to the patient.

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- Sub  
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23. The method of any one of claims 11-22 wherein the patient is a mammal.
24. A method of any one of claims 11-22 wherein the patient is a human.
25. A method of claim 11, 12 or 20 wherein the patient is a livestock animal, poultry or a domesticated animal.
26. A pharmaceutical composition a pharmaceutically acceptable carrier and a compound of any one of claims 1-10.
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